



# Water Services Advisory Commission

Oasis Water Campus  
7070 W. Northern Avenue  
December 2, 2015, 6:00 P.M.

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## FINAL MINUTES

### I. CALL TO ORDER – 6:00 p.m.

### II. ROLL CALL: Present: Commissioners Robert Gehl, Robin Berryhill, Ruth Faulls, John Sipple, Ron Short, Vice-chair Roger Schwierjohn, and Chairman Jonathan Liebman

Absent: None

Staff: Craig Johnson, Dr. Doug Kupel, Ron Serio, Amanda McKeever, Dan Hatch, Mark Fortkamp, Megan Sheldon, Joanne Toms, Monica Rabb, Rocco Pontrelli, Sam Garza, Drew Swieczkowski, Anthony Weathersby, Thomas Relucio, and Sally Melling, Recording Secretary

### III. APPROVAL OF MINUTES OF PREVIOUS MEETINGS

Approval of the Final Minutes, November 4, 2015 meeting - Motion for approval made by Comm. Short, seconded by Vice-Chair Schwierjohn. **APPROVED 7-0**

### IV. DIRECTOR'S REPORT – Craig Johnson, P.E., Water Services Director

Mr. Craig Johnson introduced the new deputy director for Water Services, Mr. Ron Serio. Ron will be in overseeing the water plants, asset management, security, and process management. Ron comes to Glendale from the City of Phoenix.

Mr. Johnson recapped the 30<sup>th</sup> Anniversary Celebration for the Water Conservation Division. Chairman Liebman also attended.

Mr. Johnson updated the Commission on the Council Workshop Urban Irrigation presentation made on December 1, 2015. Chairman Liebman assisted Mr. Johnson and Dr. Doug Kupel with the presentation. Council supported the WSAC recommendations #1-6 made at the May 6, 2015 meeting but did not support recommendation #7. Several suggestions were made by Council and will be presented to Council as a resolution at a future voting meeting. Councilmember Bart Turner requested that a 2-year base period (Fiscal Years 2013 and 2014) be used for a 50% cost recovery rate (rather than the suggested 5-year period of Fiscal Years 2010-2014) with future review in once the full 5 year time frame is accrued. This reduces the increase from \$21 to \$10 per year. Councilmember Turner also requested a change to the payment options to include payment over a 12-month period. He suggested Water Services offer three payment options to irrigation customers: an upfront total payment, payments spread over the seven month water delivery period, or payments spread over a twelve month span.

Mr. Johnson explained that recommendation #6 from the WSAC's recommendations to Council will be discussed tonight. Once a resolution is reached, the department will move forward to make a presentation to the Council.

**Action: No action required, information only**

## **V. URBAN IRRIGATION EXPENSES AND REVENUES DOCUMENTATION**

Craig Johnson, P.E., Director, Dan Hatch, Water Services Finance Administrator, and Doug Kupel, Ph. D., Deputy Director, presented information to the Commission. Mr. Hatch explained the handout packet which covered the expenses charged to the Urban Irrigation budgets of FY 2012, 2013, 2014, and 2015. Mr. Hatch explained that FY 2015 budget information, which only recently became available, lists charges paid to outside contractors (\$172,988).

Mr. Hatch explained to the Commission that expenses are recorded through the Budget Control Report (BCR) which is established for each division. He stated that some adjustments have been made to ensure accuracy. For FY 2014 the BCR expenses total shows \$143,213, while the Cost Recovery Summary shows \$146,538. He explained that in FY 2013, an amount of \$3,325 was subtracted for a payment made in FY 2013 and charged to the expenses of FY 2014. These corrections produce the Cost Recovery Summary numbers as listed. In researching back to FY 2012, it was discovered that an expense for an SRP well had been posted to the Urban Irrigation system account instead of to the Raw Water division account. Therefore, \$38,146 was subtracted from the year's costs of \$245,026. The resulting amount of \$206,880 agrees with Cost Recovery Summary amount (with rounding).

Comm. Berryhill asked for clarification on several items contained in the handout: 1) FY 2015 Account #518200 and what expenses are contained therein, 2) the Salt River Irrigation (SRI) total contract amount, 3) and the last page of the handout packet which listed 2011 and 2012 townsites charges for Salt River Valley Water Users' Association. 1) Mr. Hatch stated expenses are for SRI costs and services, and Salt River Valley Water Association for raw water assessments. He added that other outside contractors also made repairs. 2) Mr. Hatch explained the total SRI contract is for \$138,000. He estimated that the annual water charges vary between \$10,000 and \$14,000. 3) As clarification for Comm. Berryhill, Mr. Hatch explained that there are numerous charges on each invoice that groups the townsites as well as other areas that are outside of the townsites but are within the urban irrigation area. There are two major invoices that cover four different areas that are billed.

Comm. Berryhill asked if these expenses are shown on *Follow Your Money* on the city's website. She stated it will show Parks & Rec, schools, and churches charges and feels that they should be separate from the urban irrigation customers charges. She is concerned that urban irrigation customers are paying for something they do not receive. Comm. Berryhill wants to see a break-out listing for citizen customers versus schools or other users.

Dr. Kupel explained that the water assessments from SRP have been studied very closely throughout this process. He assured Comm. Berryhill that the charges for urban irrigation customers for water assessments are accurate. He further stated that if one is talking about the use of the 23-mile system for which some water might pass to a school or a church of which there are a few, to the extent that some improvements might be made to the canal by the city; then yes, that school or that church may benefit from it. However, Dr. Kupel stated they are not getting free

water, those customers pay for their own water. With regards to the parks, Dr. Kupel said there is a separate SRI contract with the Parks Department which pays for the water payments. He explained that the overall benefit to the community as a whole has been addressed by the Council when it approved the recommendations put forth by the WSAC for the 50% cost recovery. He summarized that the increase arrived at by the Council's request to use a 2-year base for cost recovery is \$10 per year from customers receiving the direct benefit from urban irrigation water delivery. Comm. Berryhill stated she does not see a \$10 per year increase. Her concern was the \$172,988 total in costs for FY 2015 and asked for clarification that it was only for the urban irrigation system. Dr. Kupel explained that those costs are for direct costs of the system: Salt River Irrigation charges and Salt River Valley Water Users Association water assessments. He further explained indirect costs are not included in the amounts. Indirect costs would include the salary costs of the various staff members who work on the urban irrigation issues and those amounts are not counted in expenses.

Comm. Berryhill asked if the \$10 annual increase will be the set amount going forward. Dr. Kupel explained that from the December 1 Workshop decision, Council recommended that FY 2013 and FY 2014 expenses be used as the base amount, and then the cost recovery issue would be reviewed once three more years of expenses are gathered. Because the FY 2015 figures were not available when the Workshop was presented on December 1, the Water Services Department now was able to extrapolate estimates for FY 2016 and FY 2017 and anticipates that the cost recovery amount will increase from \$10 to \$16 in about three more years.

**Action: Motion made by Comm. Short, seconded by Vice-chair Schwierjohn that the Water Services Advisory Commission (WSAC) has reviewed documentation provided by the Water Services Department regarding costs assigned to urban irrigation and is satisfied that the documentation sufficiently supports and defines expenses related to this service, as called for in WSAC recommendation No. 6, dated May 6, 2015.**

**PASSED 6-1**, Comm. Berryhill dissenting

Ms. Karen Jackson, W. Harmont Drive, thanked the WSAC for working diligently to preserve the irrigation system as per the law. She stated that per her personal and professional experience and background, she does not understand the figure of \$172,988 and states it does not cost that much or take that much effort to upgrade the system. She expressed concern that Murphy Park is not being irrigated. She expressed concern that open meeting laws are not being adhered to and asked that Urban Irrigation always be on the agenda so that the public could attend.

Comm. Berryhill asked to explain her vote. She stated that she voted nay not because of the \$10 or \$16 increase per year but because everyone should bear the cost equally and because there are no explicit cost calculation break-outs for citizen users.

## **VI. LOW IMPACT DEVELOPMENT PRESENTATION**

Ms. Megan Sheldon, Environmental Program Manager, presented information to the Commission on Low Impact Development (LID). Ms. Sheldon explained that LID is defined by the Environmental Protection Agency as an approach to land development that works with nature to manage stormwater as close to its source as possible. It can be applied to new development, re-development, and retrofitted to existing development and can be adapted for a wide range of land uses such as high density ultra-urban settings to low density developments. The goal is to mimic the pre-development hydrology by minimizing impervious surfaces (such as parking lots, rooftops, sidewalks, and roads) and reduce the impact of built areas. If storm water is treated as a resource rather than a by-product it could be captured for beneficial use to water vegetation and replenish

groundwater levels. Some of the benefits of LID are it could potentially reduce flooding, promote the natural movement of water which reduces sediment and pollutant loads, preserve and create natural landscape features to produce shade and mitigate heat island effects, help with energy conservation, create and protect habitat and ecosystem restoration, and possibly reduce the cost of storm water infrastructure.

Several regulations govern LID. City Code (Chapter 18.5) requires on-site retention of water in a 100 year, 2 hour storm event (which equates to slightly more than 2" of rain during the 2 hour period). Discharges to rivers and streams are governed under the Federal Clean Water Act. The city is permitted through a five-year permit to discharge storm water into Skunk Creek, New River, and Agua Fria. The city's storm sewer system is not connected to any treatment system and is therefore a direct discharge into the creek and rivers.

The LID Toolkit was developed in conjunction with the City of Mesa to address storm water discharge in arid settings. To effectively and correctly address storm water runoff, four areas are considered: source, action desired, tools, and technical variations. The Toolkit contains easy to recognize icons for functions, benefits, and locations; descriptions; installation considerations; and maintenance tips. Many existing LID examples within the city were shown. The Park and Ride Lot at 99<sup>th</sup> Avenue and Glendale Avenue was constructed in 2007 and 2008 and at the time was the largest use of pervious concrete in the western United States. The Toolkit also contains Best Management Practices. Toolkit information can be found on the Water Services Department and Planning Division websites located on the city's internet site ([www.glendaleaz.com](http://www.glendaleaz.com)).

Chairman Liebman asked if landscape areas around all city properties had been updated to LID standards. Ms. Sheldon replied that they are incorporated as work is planned. Chairman Liebman asked if future sites, not city-owned, are regulated by LID standards. Ms. Sheldon explained that some sites are but only the on-site retention requirement is currently enforced by City Code. The city's Plan Review Process encourages and provides information for builders to incorporate the LID information. Comm. Short stated that these standards could be incorporated easily into commercial design guideline revisions. He asked if drywells are considered a Toolkit item. Ms. Sheldon replied they are a gray infrastructure since it contains concrete but agreed they are used for on-site retention and dissipation.

Dr. Kupel confirmed for Vice-chair Schwierjohn that the Green Building Council site is reviewed for their best practice recommendations.

Comm. Faulls asked if a list of landscapers familiar with LID practices is available. Dr. Kupel explained that the Arizona Municipal Water Users Association (AMWUA) provides a professional landscape program to educate landscapers. The main program focus is arid and xeriscape landscaping and does not yet include an extensive LID component but Dr. Kupel sees the training and certification requirements being revised. Ms. Sheldon provided information on the Watershed Management Group, a non-profit cooperative group that works with homeowners to retrofit their yards and landscaping. She also noted that as more landscapers become familiar on the LID Toolkit, the knowledge and skills will become more available.

Comm. Gehl asked for confirmation of one presentation point: businesses such as American Furniture Warehouse, which are required to retain storm water on their property, can now be directed to the two websites provided earlier and access useful information and ideas on how to divert runoff to plants and landscaping. Ms. Sheldon confirmed he was correct.

Comm. Short mentioned that the American Society for Landscape Architects, with a local chapter, might list preferred LID vendors.

**NO ACTION REQUIRED**

The Commission at this time recessed for five minutes.

**VII. GRAY WATER PRESENTATION**

Ms. Joanne Toms, Environmental Program Manager, presented information to the Commission.

Ms. Toms explained that gray water is used water from baths, bathroom sinks, and washing machines. It is not, and never can be due to health hazards, water from toilets, dishwasher, and kitchen drains. Such water is considered black water.

The benefits of using gray water are numerous, it: saves potable water; provides a double use of water that normally goes down the drain; repurposes water for decorative (non-edible) plants, lawns, and trees; helps reduce one's water bill; and helps reduce the load on septic tanks and leach fields where applicable. Certain rebates and state tax credits are available for gray water system installation.

Gray water is regulated by the Arizona Department of Environmental Quality (ADEQ) which issued new regulations for all types of reclaimed water effective January 1, 2001. Glendale currently allows the use of gray water systems; residents who wish to use gray water must adhere to ADEQ guidelines. There are no ADEQ notifications required, review or design approval, public notice reporting or renewals needed. The only use allowed is for irrigation at less than 400 gallons per day. Users must follow the ADEQ's 13 Best Management Practices which were created to protect public health and water quality and can be located on their website.

The use of gray water systems is more wide-spread in cities such as Tucson and Tempe, with both cities offering rebates. In Glendale, system use is almost non-existent according to information obtained from the Building Safety Department.

Ms. Toms explained the precautions and downside of gray water. A 2001 Arizona study shows an increase in the bacteria levels along with an increase in alkalinity and salinity and a reduction in permeability in soil surrounding a gray water use residence. Landscape plants could experience discoloration and burning of the leaves, and may become toxic explaining why gray water is never allowed to irrigate edible plants. Use of salt-tolerant plants is highly recommended for success. Gray water systems also divert water flow from the sanitary sewer system which impacts Glendale's water portfolio with reclaimed water; diminishes flows with reduced scouring velocities which produces issues such as sediment build-up, blockages, increased odor complaints which are corrected by an increased use of odor-eliminating chemicals, increased infrastructure repairs and replacements, and higher energy costs at sewer lift station as a result of increased frequency of turn-ons.

Chairman Liebman asked if an average household retrofit cost was known. Ms. Toms stated she did not. Chairman Liebman asked if customers could expect any other cost benefits other than rebates. Ms. Toms explained that septic tank customers would realize the most benefits by prolonging the life of a septic tank or the leach field. Chairman Liebman and Ms. Toms both agreed that because it would entail a big change in behavior, gray water is not for everyone.

Vice-chair Schwierjohn asked if there are any commercial applications, such as car washes. Ms. Toms replied that the Bartlett Honors College at Arizona State University has the showers connected to a gray water system that delivers the used water for landscape irrigation. Comm. Gehl questioned if gray water could be re-used for filling toilet tanks. Ms. Toms offered that she has read articles on re-purposing gray water in this manner and a permit would be required for this use.

Comm. Sipple asked if potable water can be stored and if it would be safe to drink. Mr. Johnson advised against drinking it unless it is either boiled or treated with iodine pills. He explained that potable water is chlorinated and ages over time. Water contained within the city's delivery systems is moved forward in less than 50 hours.

Comm. Short asked what percentage of treated effluent is captured for landscaping or recharge. Mr. Johnson explained that the city's goal is to recharge 100% of it however there is no current direct re-use policy. Effluent is used directly in the small lakes at Cabela's and Zanjero Falls locations and in the Camelback Ranch Baseball Stadium large lake. Recharge credits are given on a 1 for 1 rate for water recharged into the ground. Comm. Short asked how much is recharged in one day. Mr. Johnson replied it depends on the day and the time of year. There are two recharge facilities used – the New River Agua Fria Underground Storage Facility (NAUSP) with a capacity to recharge 4 million gallons/day and the West Area Aquifer Recharge Facility. The city also gets paid by Arizona Public Service for effluent sold to the Palo Verde Nuclear Power Plant from the 91<sup>st</sup> Avenue Wastewater Treatment Plant in Phoenix.

Comm. Berryhill asked if gray water system information should include a recommendation of using biodegradable detergent for washing machines. She pointed out that lower water flows could also be due to water saving features. She asked what class of water swimming pool water is considered. Mr. Johnson explained that swimming pool and pool equipment backwash water is required to be drained into the sewer system. Comm. Berryhill asked if water from a filtering system for pool equipment could be placed on landscaping. Comm. Berryhill requested an informational blurb be placed on monthly water bills containing pool water draining information. Staff reported that guidance for draining pools can be found on the City's website:

<http://www.glendaleaz.com/WaterConservation/documents/drainpoolslegally.pdf>

Comm. Berryhill stated that she feels that the City of Tempe's rebate for gray water systems is lower than the City of Tucson's is because Tempe uses Salt River Project water so the cost is not as high. She asked if a permit is needed to retrofit a washing machine to a gray water system. Ms. Toms explained that one is not needed and the Building Safety Department would refer customers to ADEQ for requirements.

Ms. Toms provided resources for biodegradable soaps and laundry products. Ms. Toms explained that rebate amount differences between the cities of Tempe and Tucson can be better explained by each city's water portfolios, and water management decisions based on their water culture. Tucson does not have access to Central Arizona Project water and has more arid landscaping.

#### **NO ACTION REQUIRED**

### **VIII. CALL TO THE AUDIENCE**

No audience members addressed the Commission.



**IX. FUTURE AGENDA ITEMS**

City General Plan Process

**X. NEXT MEETING:** January 6, 2016, 6 p.m.

**XI. ADJOURNMENT** – Motion to adjourn was made by Comm. Sipple, seconded by Comm. Berryhill. **MOTION APPROVED** by voice vote. The meeting adjourned at 8:00 p.m.

Respectfully submitted,  
Sally Melling, Recording Secretary